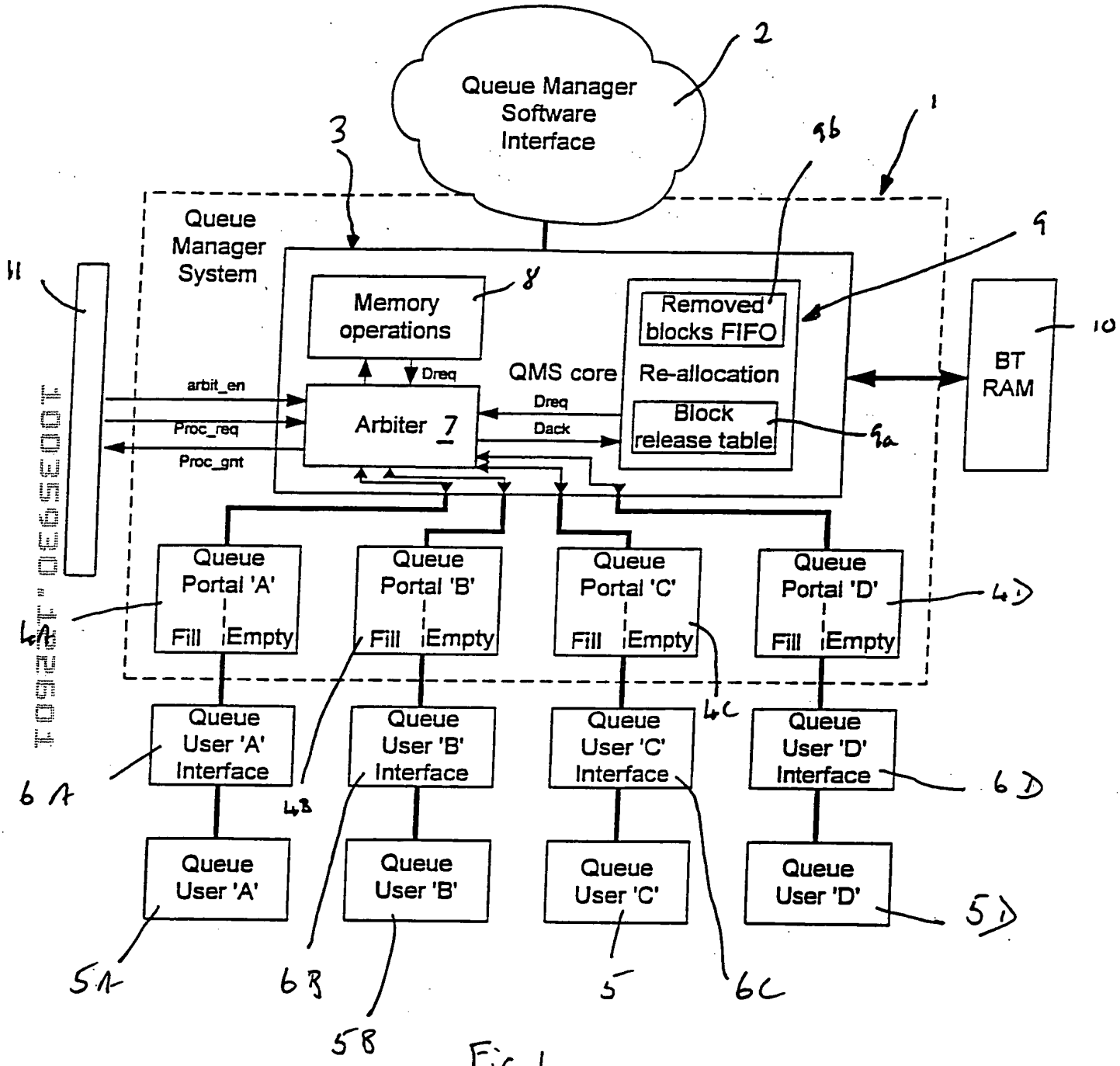
Queue Manager Software Interface
2
3
1
9b
9
Queue Manager System
11
Memory operations
8
Removed blocks FIFO
QMS core
Re-allocation
Block release table
9a
BT RAM
10
arbit_en
Proc_req
Proc_gnt
Arbiter 7
Dreq
Dack
Queue Portal 'A'
Queue Portal 'B'
Queue Portal 'C'
Queue Portal 'D'
Fill
Empty
4A
4B
4C
4D
Queue User 'A' Interface
Queue User 'B' Interface
Queue User 'C' Interface
Queue User 'D' Interface
6A
6B
6C
6D
Queue User 'A'
Queue User 'B'
Queue User 'C'
Queue User 'D'
5A
5B
5C
5D

Fig. 1

Bus with multiple masters (and slaves);-

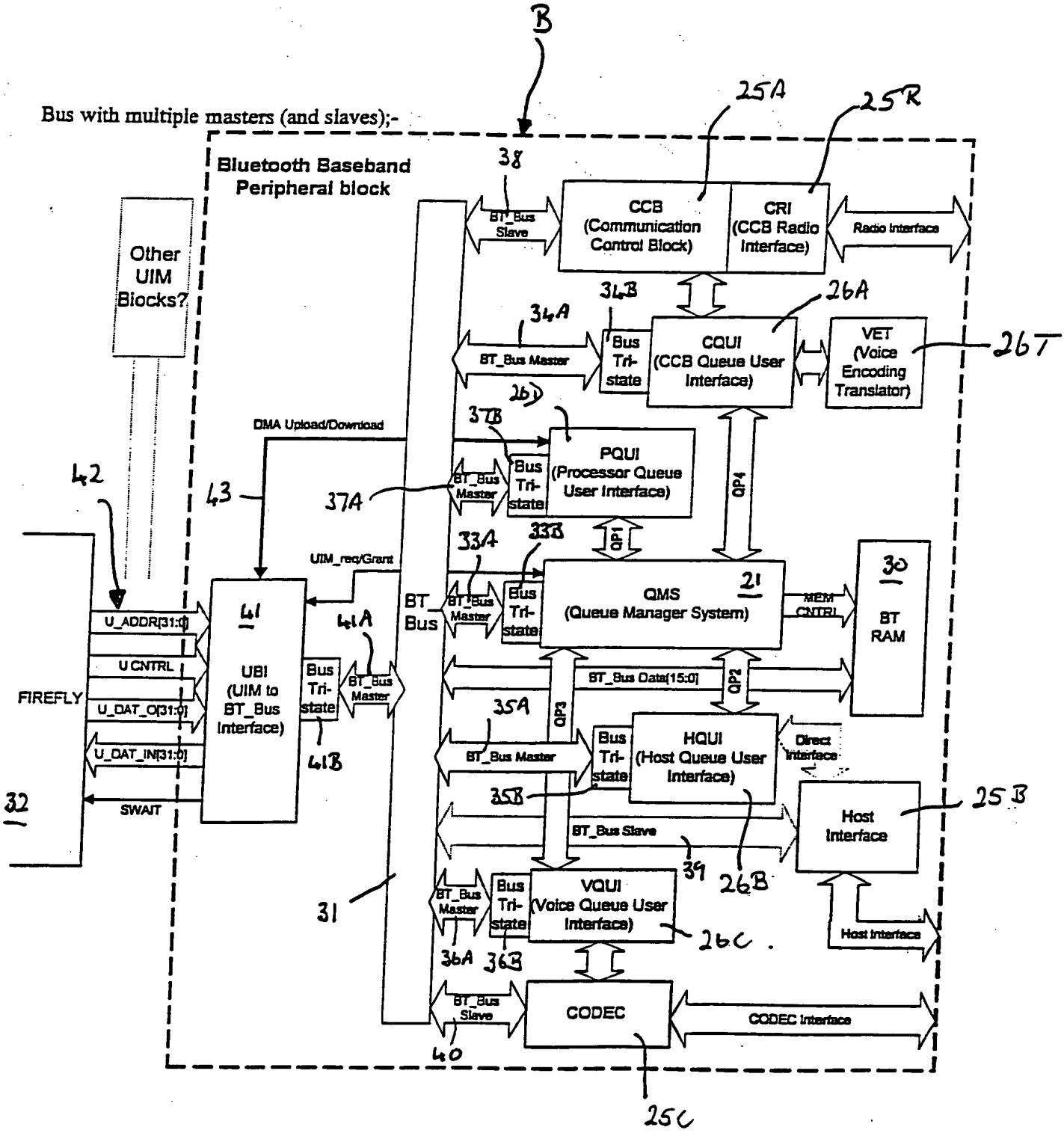

Fig. 2

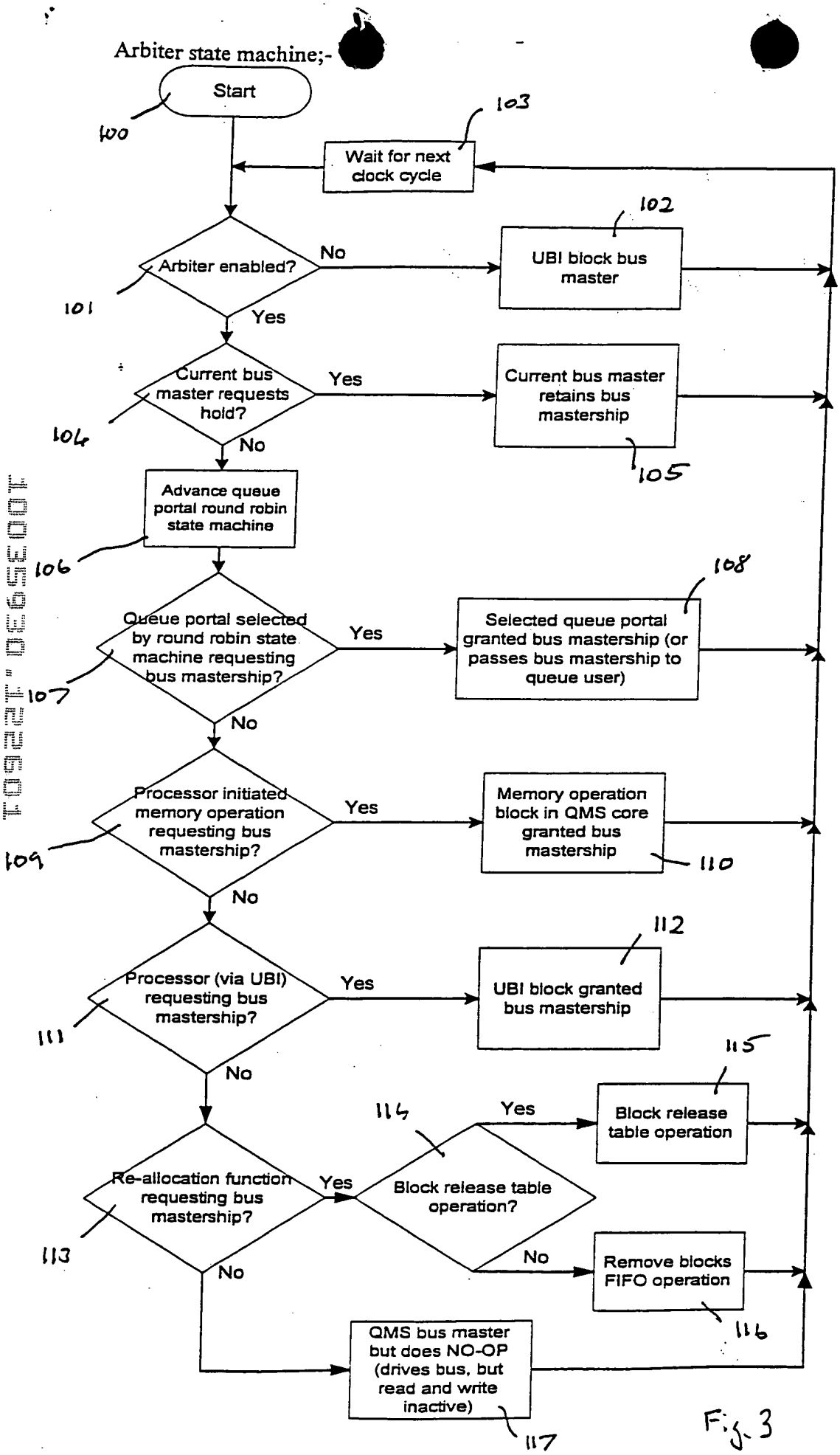
Arbiter state machine;-
Start
100
Wait for next clock cycle
103
Arbiter enabled?
101
No
UBI block bus master
102
Yes
Current bus master requests hold?
104
Yes
Current bus master retains bus mastership
105
No
Advance queue portal round robin state machine
106
Queue portal selected by round robin state machine requesting bus mastership?
107
Yes
Selected queue portal granted bus mastership (or passes bus mastership to queue user)
108
No
Processor initiated memory operation requesting bus mastership?
109
Yes
Memory operation block in QMS core granted bus mastership
110
No
Processor (via UBI) requesting bus mastership?
111
Yes
UBI block granted bus mastership
112
No
Re-allocation function requesting bus mastership?
113
Yes
Block release table operation?
114
Yes
Block release table operation
115
No
Remove blocks FIFO operation
116
No
QMS bus master but does NO-OP (drives bus, but read and write inactive)
117

Fig. 3